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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER BENZON, GREG C				
ART UNIT 2444		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

09/735,919

Applicant(s)

HERRMANN ET AL.

Examiner

GREG BENZON

Art Unit

2444

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date: _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This application has been examined. Claims 26-45 are pending. Claims 1-25 are cancelled. Claims 36-45 are submitted as new claims.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/23/2009 has been entered.

Priority

The effective date of the claims described in this application is December 16, 1999.

Response to Arguments

Applicant's arguments filed 03/23/2009 have been considered but are not persuasive.

The Examiner suggests that in order to expedite prosecution the Applicant might consider claim language incorporating the use of the *object identifier unifiability criterion* as described in page 19 lines 5-15 and page 20 in the Applicant Specification.

The Examiner presents new grounds for rejection regarding USC 101 issues.

The Examiner is withdrawing the USC 112 rejection on the basis of the Applicant remarks filed 02/17/2009 page 11 indicating wherein said values indicate status or operation of the resource being monitored using a network management protocols such as SNMP or CMIP. Thus the claims encompass values representing status, statistics, measurements and operations that are described in said network management protocols.

The Applicant presents the following argument(s) [*in italics*]:

... In contrast, Jung' s writing means does not write information regarding the indicator agent from which the associated indicator agent received the subscription notification, as recited in Claim 26.

The Examiner respectfully disagrees with the Applicant. Jung disclosed Column 7 Lines 1-10 cell attributes being a function of the cells being observed. Where an operator is able to select cells to observe Column 8 Lines 50-65 then Jung disclosed the equivalent of receiving a subscription notification from at least one other indicator agent.

The Examiner notes that the subscriber list is a data table storing the names of other indicator agents. Jung disclosed a monitoring node for storing attributes and event corresponding to an observed node, where the observed attributes and events

are stored a local database (Jung-Column 1 Lines 15-20), said local database thus being equivalent to a subscriber list.

Jung disclosed a propagation control mechanism in each cell, such that each cell is aware of the observing cells that need to know the state changes being propagated. (Jung- Figure 5, Item 52n and Item 55) Thus Jung disclosed that each cell is storing a list of other nodes in its local database.

Where Jung disclosed cell identification and state change propagation where said cell information is maintained on a database, Jung disclosed '*where each writing means is arranged to write an identification of at least one other indicator agent in the subscriber list.*'

The Examiner notes that it would have been inherent for the control mechanism by Jung to have writing means associated with each node, in order to update the node local database.

Thus Jung disclosed writing information regarding the indicator agent from which the associated indicator agent received the subscription notification from at least one other indicator agent.

The Applicant presents the following argument(s) [*in italics*]:

Jung's writing means, (assuming arguing that writing means is present in the Jung's system), merely updates the attributes of the affected cells.

The Examiner respectfully disagrees with the Applicant.

Jung disclosed writing cell identification ('*identification information*') and state change propagation ('*management information*').

Claim Interpretation

Before any construction of the claims occur, it is essential that the terms in the claim(s) be clearly defined. Here are the definitions which the Examiner has determined to be most reasonable for important terms in the claims. In light of the; overly broad and nebulous disclosure, these definitions will be relied on to properly understand what is being claimed.

1. Agent: an autonomous process performing a service (as used in the art)
2. Indicators: scalar (numerical) representations of states of computing components (per present specification, Page 1, Lines 17-23)
3. Indicator agents: process which determines particular indicators (per present specification, Page 1, Lines 17-23)
4. Domain: logical grouping of network computing nodes (per present specification, Page 4, Lines 11-12)
5. Configuration agent: process which creates indicator agents (per present specification, Page 10, Lines 15-26)
6. Subscriber List: a data table storing the names of other indicator agents.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claims 26-35 are directed towards a '*deployment device*' comprising of 'a *computer readable medium*'. The Applicant Specification does not provide guidance regarding said *computer readable medium*.

The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 26-45 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 26-35 are directed towards a '*deployment device*' comprising of 'a *computer readable medium*'.

Since the Applicant Specification does not have any support for 'a computer readable medium having encoded instructions' the Examiner concludes that the computer readable medium includes data signals such as transmission signals and carrier waves, said data signals being non-statutory subject matter. Thus in this interpretation the claimed device is embodied in a data signal and is thus non-statutory.

Furthermore upon inspection of the Applicant Specifications Page 5 Lines 15-25, Page 8-10, Page 16-17, Page 21 the Examiner concludes said '*indicator agents*', '*configuration means*' and '*writing means*' are nothing more than software components.

Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and USPTO personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material.

The Examiner notes that computer programs embodied on a data signal are non-statutory.

Claims 36-45 are directed towards a method for evaluating and writing using indicator agents wherein said agents are nothing more than software components. Since there is no association between the method steps and any physical or hardware component of the device the claims may be interpreted as not tied to manipulating a computer device. Thus the claims are non-statutory for failing to comply with the Diehr test for process patents, which requires the process to either transform matter into a different state or thing, or be tied to a particular apparatus or machine.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious

at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. §103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR §1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. § 103(c) and potential 35 U.S.C. §102(f) or (g) prior art under 35 U.S.C. §103(a).

Claims 26-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turek et al. (U.S. Patent Number 6,460,070), hereinafter referred to as Turek, in view of Jung et al. (U.S. Patent Number 6,308,208) further in view of Anerousis (US Patent 6393472).

Using the above definitions for claim terms, Examiner has concluded that the independent claims (i.e. Claim 26) require determination of a set of variables (i.e., indicators) to dictate what is intended to be measured (i.e., indicated) at specified nodes, on a list, defining a given domain. Among these nodes on the list, processes are spawned/created/configured/etc., to determine the specified indicators on each node. The dependent claims range from arbitrary function call names to agent process generalizations.

Turek disclosed construction of software agents by selection or assembling one or more tasks. See, inter alia, Column 2, Lines 37-41, and Column 7, Lines 49-57. This agent is deployed to measure one or more "indicators" at the specified node(s). See, inter alia, Column 2, Lines 47-49. The disclosed gateways act to manage their own "domain" of nodes. See, inter alia, Column 4, Lines 50-58. The system is equipped to recognize and rectify myriad differing network conditions.

Jung provided very similar teachings, related again with network conditions and deployed agents. See, inter alia, Columns 1-2. Jung expressly disclosed the scalar measurement of "indicators" as claimed. See, inter alia, Column 2, Line 26 through Column 3, Line 6. The system acted to propagate determined values of network measured resources to other agents in the system for coordinated system management. See, inter alia, Column 3, Lines 2-6. This provided a mechanism for monitoring and managing an entire realm of system "indicators". See, inter alia, Column 4, Lines 34-38. The system used atomic indicator agents which were capable of referencing each other, while having attributes indicating state (i.e., indicating agents, and indicators, as claimed). See, inter alia, Column 6, Line 63 through Column 7, Line

Also, the "cells" were completely customizable, equipped to perform any one or various sets of functions. See, inter alia, Column 7, Lines 10-19. Thus, the system operated to propagate changes and observed states to other autonomous agents for purely distributed management. Lastly, the use of multiple agents (i.e., the use of concurrently operating/executing cells and maintenance of cell states) was likewise evident. See, inter alia, Column 7, Lines 32-61. 33. The combination of these teachings

was not challenged by Applicant. This makes sense, since the inventions are subcombination usable together on the same system. Note Figures 1, both Patents. The resulting systems provided a system operating to configure and deploy operating agents to specified domains which resulted in logical arrangements of monitored "indicators".

Turek disclosed (re. Claim 26) a plurality of indicator agents that evaluate indicators, each indicator characterizing the status or the operation of one or more resources of the computer system. (Turek- Column 2, Lines 37-41, and Column 7, Lines 49-57)

Turek disclosed (re. Claim 26) configuration means (Turek-Column 4 Lines 40-55) that specifies the domain or domains of the computer system [Turek- (Turek- Column 4 Lines 40-55, '*managed region*')] in which each indicator agent should be deployed, the configuration means comprising a configuration deployment agent (Turek- Column 7 Lines 50-60, '*dispatch mechanism*') that creates, for each resource to be monitored, a configuration agent, wherein each configuration agent creates the plurality of indicator agents for the resource and each indicator agent evaluates one of the plurality of indicators, each indicator agent managing a subscriber list.

While Turek substantially disclosed the claimed invention, Turek did not disclose (re. Claim 26) writing an identification of at least one other indicator agent on a subscriber list stored on the storage means of the computer equipment associated with the indicator agent. Turek did not disclose (re. Claim 26) an equation for calculating the value of said indicators.

Turek did not disclose (re. Claim 26) *an indicator-defining function for determining said value by searching through object-identifiers and instantiating associated variables using a network management protocol.*

Jung disclosed (re. Claims 26) writing an identification of at least one other indicator agent (Jung-Column 8 Lines 5-15, '*control mechanism implementing cell identification techniques and cell state propagation*') on a subscriber list stored on the storage means of the computer equipment associated with the indicator agent. (Jung-Figure 5, Item 52n and Item 55, Column 7 Lines 25-30, '*propagation control mechanism*')

Jung disclosed a propagation control mechanism in each cell, such that each cell is aware of the observing cells that need to know the state changes being propagated.

Turek and Jung are analogous art because they present concepts and practices regarding distributed network monitoring agents. At the time of the invention it would have been obvious to combine Jung into Turek. The motivation for said combination would have been (Jung-Column 1 Lines 65) to provide a resource model-based management scheme that operates across distributed nodes.

Anerousis disclosed (re. Claim 26) an indicator compiler that generates for each indicator, after analyzing an equation associated with the indicator, (Anerousis-Column 8 Lines 10-15) two object classes, which respectively correspond to the indicator deployment agents that deploy the agents (Anerousis-Column 10 Lines 60-65, '*every AMO must be instantiated within a MAVS*') and to the indicator agents that evaluate the indicator. (Applicant-Figure 1, Column 7 Lines 45-55, '*Aggregated Managed Objects*')

The Examiner notes that Anerousis disclosed a special management agent called MAVS which is equivalent to the claimed invention's 'I_Deployer' object class. Similarly Anerousis disclosed AMOs which are equivalent to the claimed inventions' 'I_Indicator' object class.

Furthermore Anerousis disclosed analyzing a selection formula [filter function] in order to determine which indicator agents [*managed objects*] are used to evaluate each indicator.

Anerousis disclosed (re. Claim 26) *an indicator-defining function for determining said value by searching through object-identifiers (Anerousis-Column 8 Lines 25-35) and instantiating associated variables using a network management protocol. (Anerousis-Column 11 Lines 25-35, 'query function for searching', 'accessing management services using SNMP')*

Anerousis disclosed wherein clients can dynamically browse through the services provided by the object and invoke a service with the appropriate parameters. (Anerousis-Column 10 Lines 25-30) The Examiner notes that in the context of Anerousis browsing is equivalent to searching.

Furthermore Anerousis disclosed wherein object management services are used to instantiate, upgrade or delete objects while the server is running. The manager provides the name of the object to be instantiated, its location in the database and a pointer to the code that can be used to instantiate the object. (Anerousis-Column 10 Lines 35-45)

Turek,Jung, and Anerousis are analogous art because they present concepts and practices regarding distributed network monitoring agents. At the time of the invention it would have been obvious to combine Anerousis into Turek-Jung. The motivation for said combination would have been (Anerousis-Column 2 Lines 35-40) to aggregate the control of a large number of network elements into simpler interfaces.

Claim 36 (re. method) is rejected on the same basis as Claim 26.

Turek-Jung-Anerousis disclosed (re. Claim 27,37) wherein each configuration agent comprises means which creates an indicator agent (Turek-Column 7 Lines 50-55) for each indicator of the resource to which said indicator is assigned, said indicator agent being an indicator deployment agent which determines, for the indicator with which said deployment agent is associated, various combinations of the values (Turek-Column 7 Lines 10-15, *'events of which they are interested in receiving notice'*) of the variables used by the equation from which said indicator is calculated. (Anerousis-Column 8 Lines 10-15)

The motivation to combine described in Claim 26 applies to Claim 27.

While Turek-Jung substantially disclosed the invention as described in Claim 26, Turek-Jung did not disclosed (re. Claim 28) an indicator compiler that generates for each indicator, *after analyzing the equation from which said indicator is calculated*, two object classes "I_Deployer" and "I_Indicator", which respectively correspond to the indicator deployment agents that deploy the instances of the class "I_Indicator" and to the indicator agents that evaluate the indicator.

While Turek-Jung substantially disclosed the invention, Turek-Jung did not disclosed (re. Claim 28) *wherein the first class object "I_Deployer" is configured to specify which indicator agents identified by the second object class "I_Indicator" must be created and to declare to a naming service the indicator agents actually created.*

Turek-Jung-Anerousis disclosed (re. Claim 28,38) an indicator compiler that generates for each indicator, *after analyzing the equation from which said indicator is calculated*, (Anerousis-Column 8 Lines 10-15) two object classes, which respectively correspond to the indicator deployment agents that deploy the agents (Anerousis-Column 10 Lines 60-65,'every AMO must be instantiated within a MAVS') and to the indicator agents that evaluate the indicator. (Applicant-Figure 1, Column 7 Lines 45-55,'Aggregated Managed Objects')

Turek-Jung-Anerousis disclosed (re. Claim 28,38) *wherein the first class object "I_Deployer" is configured to specify which indicator agents identified by the second object class "I_Indicator" must be created* (Anerousis-Column 10 Lines 60-65,' every AMO must be instantiated with a MAVS') *and to declare to a naming service the indicator agents actually created.* (Anerousis-Column 11 Lines 15-20,' AMO service registry')

The Examiner notes that Anerousis disclosed a special management agent called MAVS which is equivalent to the claimed invention's 'I_Deployer' object class. Similarly Anerousis disclosed AMOs which are equivalent to the claimed inventions' 'I_Indicator' object class. Furthermore the MAVS instantiate AMOs according to the

aggregation rule and filter function being performed being applied to the AMO.

(Anerousis-Column 4 Lines 1-10)

Furthermore Anerousis disclosed analyzing a selection formula [filter function] in order to determine which indicator agents [*managed objects*] are used to evaluate each indicator. (Anerousis-Column 8 Lines 10-20)

At the time of the invention it would have been obvious to combine Anerousis into Turek-Jung. The motivation for said combination would have been (Anerousis-Column 2 Lines 35-40) to aggregate the control of a large number of network elements into simpler interfaces.

Turek-Jung-Anerousis disclosed (re. Claim 29,30,39,40) the indicator agent comprises name resolution means which resolves the names of objects referenced from which the indicator is calculated (Anerousis-Column 8 Lines 25-30, *'resolved into a list of element management agents'*)

The motivation to combine described in Claims 26, 28 applies to Claim 29,30,39,40.

Turek-Jung-Anerousis disclosed (re. Claim 31,41) searching for all objects identified in the equation from which the indicator is calculated, (Anerousis-Column 8 Lines 25-35) and

means which creates the indicator agent associated with the indicator deployment agent if the constraint is satisfied, using as parameters the objects corresponding to the valid combinations of the values of the variables found.

The motivation to combine described in Claims 26, 28 applies to Claim 31,41.

Turek-Jung-Anerousis disclosed (re. Claim 32,33,42,43) wherein the configuration deployment agents and the configuration agents are managed by at least one agent machine installed in at least one resource of the monitored domain, (Anerousis-Column 7 Lines 50-65) said one agent machine being configured to handle the distribution of one or more subscription notifications and the transmission of the subscription notifications and the management of overall indicator agent atomicity. (Jung- Figure 5, Item 52n and Item 55, Column 7 Lines 25-30, 'propagation control mechanism')

The motivation to combine described in Claims 26, 28 applies to Claim 32,33,42,43.

Jung disclosed a propagation control mechanism in each cell, such that each cell is aware of the observing cells that need to know the state changes being propagated. The Examiner notes that since Anerousis disclosed separate MAVS (Anerousis-Column 11 Lines 40-45) it would have been obvious to combine the propagation mechanism by Jung into the MAVS hierarchy by Anerousis in order for the aggregation system to work.

Turek-Jung-Anerousis disclosed (re. Claim 34,35,44,45) means which manages each indicator deployment agent either by the agent machine that manages the configuration agent associated with the indicator deployment agent, or by a different agent machine (Anerousis-Column 7 Lines 50-65) said agent machine being configured to handle the distribution of one or more subscription notifications and the transmission of the subscription notifications and the management of overall indicator agent

atomicity: (Jung- Figure 5, Item 52n and Item 55, Column 7 Lines 25-30, 'propagation control mechanism')

The motivation to combine described in Claims 26, 28 applies to Claim 34,35,44,45.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Bengzon whose telephone number is (571) 272-3944. The examiner can normally be reached on Mon. thru Fri. 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571)272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. B./

Examiner, Art Unit 2444

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444